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## ABSTRACT

Technology is progressing at an unprecedented pace. The world of business is keeping up with it. However, schools are being criticized by the general public, which is skeptical about the ability of schools to produce citizens that will be able to face the challenges of the 21st century. Educators are predicting that the current school system will have to change to meet the needs of the future. The school of the future will be a Web site instead of a building that operates 7 hours a day for 180 days. The Web environment provides for learning that is continuous and learning at a distance and does not stop or start with bells. Distance education uses constructivist principles, increases mentoring opportunities and does not penalize learning by evaluation. Some of the limitations of distance education include down time of the server, unexpected failure of technological equipment, and increased wait time in chat rooms. The use of chat room strategies can be an effective tool in providing needed change in the instructional arena. This paper covers strategies that can be utilized to increase the effectiveness of chat rooms. (Contains 29 references.)  
(Author/AEF)

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## Interactive Internet Chat Room Inquiries and Strategies

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### Abstract

Technology is progressing at an unprecedented pace. The world of business is keeping up with it. However, schools as an institution are being criticized by general public. Public is skeptical about schools' ability to produce citizenry that will be robust enough to face the challenges of twenty first century. Educators are predicting that the current school system will have to change. The school of the future will be Website instead of a building that operates seven hours a day for hundred and eighty days. Website provides learning that is distant and continuous. It does not stop or start with bells. Distance education uses "Constructivist" principles. It increases mentoring opportunities and does not penalize learning by evaluation. Distance education is certainly not free of limitations. Some of the limitations of Distance education are: down time of server, unexpected failure of technological equipment, and increased wait time in chat rooms. This paper covers strategies that can be utilized to increase the effectiveness of chat rooms.

## **Interactive Internet Chat Room Inquiries & Strategies**

### **Criticism of Traditional Schools**

The growing body of criticism and skeptical public demand better models of education and a new instructional delivery system that insures higher achievement and more equity at the lower possible consumer costs. The negative tone and national criticism of our school graduates have cast doubts about today's curriculum programs and the school's capacity to deliver, effectively, its instructional content, and the school's ability to produce a literate 21<sup>st</sup> century citizen (Ball & Wilson, 1997).

Reform effort critics claim that schools are so covered with bureaucratic sediment that initiative, creativity and professional judgment all have been paralyzed. A common belief is that existing bureaucratic system of administration is incapable of meeting the technological and societal needs of the public education in the 21<sup>st</sup> century (Murphy, 1999).

These critics point and maintain that the current administrative structures are distorting the educational process and interfering with learning. Other analysts hold that the existing organizational structure of schools is neither sufficiently flexible nor robust to meet the needs of students in a post-industrial society (Marsh, 1999).

Parents, community and corporate members, are demanding that the school system produce their highest cognitive quality of educational instruction. To accommodate these public pressures and instructional issues, a real dichotomy exists for our 21st century schools between existing instructional practices and advanced uses of technology as a functional part of our schools (Alexander & Blight, 1996).

Other reform advocates maintain that what really makes a school successful is access to meaningful computer knowledge bases, and that increasingly means computers, the Internet, closed-circuit TV and all the other technologies that link students with information-tools they will be expected to know and use when they reach the world's workplace. The greatest change for K-12 education will be a shift from home-based schools to on-line technology based models (Agre, 1999; Maurer, 1998; & McKinsey, 1995).

Educators with the "Vision" of future workplaces are beginning to insure that our best schools are fast becoming "Virtual" wired centers of learning, able to tap into information anywhere in the world (Cetron & Cetron, 1999).

Greene (1986) states, "I would like to think of teachers moving the young into their own interpretations of their lives and their lived worlds, opening wider and wider perspectives as they do so...I would like to see teachers tapping the spectrum of intelligences, encouraging multiple readings of written text and readings of the world...Such a project demands the capacity to unveil and disclose. It demands the exercise of imagination, enlivened by works of art, by situations of speaking and making. Perhaps we can invent ways of freeing people to feel and express indignation, to break through the opaqueness, to refuse the silences. We need to teach in such a way to arouse passion now and then."

### **Challenge of Technology and Distance Education**

Most school systems across the United States are so immersed in the current standards' movement, because of the public's cry for increased educational accountability. Many parents within these larger publics do not realize that technology has transformed everything in the workplace. The same may be true for traditional public schools that may lose their market share to a wider variety of competitors if they don't change appropriately (Batz & Rosenberg, 1999).

Unless educators move to incorporate advanced technology into an on-line delivery system, i.e. "Distance Education," we will continue to walk

towards quicksand pits and will continue to sink to further levels of educational failure and societal and economic chaos (Dede, 1996; Picciano, 1998).

To meet this new instructional challenge, our schools must move towards new and alternative forms and uses of educational technologies to deliver meaningful instructional products to all of its consumers. The dominant priority model emerging as the leader in this endeavor, is the use of "On Line" education commonly referred as "Distance Education" (Bush, 1999).

From an extensive body of effective schools research regarding the introduction of innovations such as technology, it is known that the leadership and response behaviors of educators are linked to the development of a collaborative workplace so necessary to managing the kind of change technology will demand, i.e., "Distance Education." Technology is designed to be a "tool" in the hands of educators and students and to be vitally linked with the distance-learning curriculum (Giberti, 1999; Jaffee, 1999, & Reksten, 2000).

Thus in attempting to delineate future needs and link them to future trends, we offer the following generalizations/hypotheses about the emerging educational landscape.

**Trends for The Future** (Brooks & Brooks, 1993; Cetron & Cetron, 1999; Cirasulo, 1999, & Marshall, 1999)

- The school enterprise will be Website instead of building based.
- The major delivery system will be a series of learning networks that students will enter in accordance with a technology design plan established in collaboration with teachers and parents. These networks will allow students to interact over the Internet with others around the world in writing, and also via experiences of virtual reality in which students in many different locations will see, talk, and touch each other in some intellectual interaction and feeling.
- Students will still come to school building on or varied schedules to consult with teachers, interact with peers, and plan how to use the Internet from their own homes. School buildings will be very different in structure, design and education. They will be more community based.

- School systems will no longer be defined simply by geography. They will be based on new concepts of place that will spring from the digital age.
- Moreover the governance of these systems will differ radically from the present systems in that they will reflect reality as defined from a digital perspective. All of our place-bound concepts will be redefined.
- Learning will be grounded in an epistemology that affirms integrative ways of knowing; believes meaning and connections are constructed by the learner; affirms the power of relationships and community in learning; believes the learners' passion and love are essential for deep learning; understands that relatedness and engagement are at the heart of learning and that there is a profound connection between the knower and the known.
- Inter-connecting schools more closely linked with the larger community and global world.
- Teachers' roles and instructional behaviors will no longer limited to chalkboard lectures and discussions; rather, they will become facilitators, leaders, catalysts and educational guides.

- Teachers will help students master the skills of collecting, evaluating, analyzing and synthesizing information. They will provide challenges while always looking for the best the student has to offer.
- The strongest theoretical and disciplinary influence on education-behavioral psychology-is being pushed off center stage by constructivist psychology and newer sociological perspectives on learning.
- The prevailing conception of knowledge as an external entity is breaking down. A new view, one that holds that knowledge is internal and subjective, that it is closely connected to the learner and the situational context, is receiving serious consideration. Learning, in this context, is seen as a social phenomenon and considerable attention is devoted to the social origins of cognition.
- Lastly, if e-mail can bring commerce to customers, why can't e-mail bring teachers and parents together in meaningful ways? For example, we envision parent conference and teacher collaboration and professional development to take place electronically.

Distance education, therefore, must include a variety of different technologies to deliver instructional content across the world. It will not be

bound by place or time. True and meaningful education becomes a "Virtual Reality of School without Walls." Its focus and destination is anywhere and everywhere. It reaches all points of the earth. It touches the minds and hearts of everyone in our world. It is truly universal. It will circle our globe, bind us all together in many meaningful ways, and reach out universally.

As evident from Table I, there are many advantages built into the structure of distance education. Each of these allows for diverse obstacles and interest and is consistent with constructivist tenets. (Brooks and Brooks, 1984).

#### **Successful Distance Education Variables**

Distance education learning is continuous. Learning does not stop or start with bells. It is not a "Classical" Conditioning Model. Distance education is a viable alternative model that can meet the needs of all those who desire an alternative form of education. (Dede, 1998 & Donham, 1999).

Current school-being present in a building for seven hours a day for 180 days will give way to learning-the demonstration of mastery of specific learning goals and performance-based beliefs. Education will remain of paramount interest to our society, but there will be a wider definition of how that education can be achieved. Setting the stage for these changes become

the role and priority of future education-from "Birth-to-Death;" from "Womb-to-Tomb." (McLaughlin, 1999).

Table 1 Major concepts of "Distance Education" might include:

Insert Table 1 here

Please note that there are critics who voice their opposition to a distance education model because teachers and students lose their personal contact with each other. They maintain that the human touch is a necessary component for cognitive learning.

However, there is little research evidence to support the proposition that the teacher's individual human touch, alone, increases achievement scores. With the advent of the information explosion continuing at a geometric rate, one instructor cannot provide the necessary information or knowledge base, including appropriate instructional strategies, to insure maximum student learning. They cannot continue to read the millions of new publication of materials that are exponential in nature. They cannot become the masters of new knowledge bases except within a limited area of inquiry. They can facilitate, inspire and guide.

In a study completed by Beare (1989) where six alternative delivery methods were compared-traditional classroom lecture, lecture with videotape back-up; tele-lecture (satellite-based instruction with one-way, two-way audio); audio-assisted independent study (videotapes) and three on-campus Saturday sessions); video-assisted independent study (videotapes and three on-campus Saturday sessions); and video on-campus (videotapes, rather than lecture, in an on-campus classroom setting-an analysis of the results indicated that instructional format had no significant effect on student achievement and that "the lack of individual opportunity to interact on a daily basis with the instructor did not reduce student learning" (Beare, 1989).

#### **Limitations Of Chat Rooms\On-line Learning**

What is happening in distance education models, where chat rooms are used as the primary method of imparting instructional information, it becomes apparent that teachers do not have a variety of instructional strategies\inquires to insure a many different options of learning opportunities.

As potent as Distance Education has become, authors have identified a number of limitations that are associated with this alternative on-line model. They include but not limited to: (Custer, 1999; Dugger, 1999).

- Limited knowledge of different structures on using the chat room.
- Student\teacher typing and speed problems.
- Waiting time for students to participate and respond.
- Divergent thinking may be discouraged.
- Large number of students using the chat room.
- Posting of assignments in advance of chat room discussion.
- Limited participation of chat room members.
- Teacher uses of different instructional strategies\inquires.
- Different types of technologies that may-or-not be available.
- Limitations and uses of multi-media graphics and presentations.
- Lack of knowledge by students of different technologies.
- Down time of server.
- Ability of instructor to use up-dated technologies.
- Limited use of voice-recognition systems.
- Inability of seeing each other in chat rooms.
- Lacks interpersonal interactions.

### **Strategies And Inquiries For Chat Rooms**

Practitioners and curriculum planners need to understand that if technology is to be used as a new and viable tool in curriculum design, the curriculum must then be organized around core conceptual and reflective-based instruction for curriculum integration. When the curriculum is conceptually organized, and utilizes principle of reflection as a learning tool, then instructional activities become more integrated; students become meaningfully engaged and the potential for student learning increases.

In schools where reflective practice is used, failure, as a construct cannot co-exist with quality learning. Conceptual reflection means to mentally wander through the forest of experience and to try to make cognitive sense of the pictorial view as well as the mental images and impressions of the scenes around you. In teaching, as in life, maximizing meaning from experiences requires conceptual reflection and construction of new ideas.

Reflecting on issues and events validates and enriches our internal cognitive conversation. Using constructivist principles, for example, provides incentives and a forum for the attainment of higher order cognitive skills.

Teachers can and should invite students to share their personal meta-cognition-to reveal their intentions, strategies, and plans for solving a problem; to describe their mental maps for monitoring their strategies during the problem-solving process and to reflect on strategies to determine their adequacy (Costa & Kallick, 2000).

This use of alternative forums for discussion of relevant ideas makes on-line chat room more inviting, desirable and productive. Used in this way, the dissemination of directed information does not become a one-way classroom lecture strategy. The focus of sharing appropriate and relevant information, using reflective practice, becomes a useful strategy in distance education chat rooms (Kimball, 1995).

Table 2 presents a list of on-line potential inquires and instructional strategies where chat rooms comprise the major instructional forum for discussion and inquiry. Each strategy seeks meaningful student interactions, higher levels of analytic thinking, more powerful engagement of ideas, and personal exploration of deeply human questions. Learning is credentialed by demonstrations of understanding in this dynamic process (Marshall, 1999).

Moreover, when appropriate technologies and other hypermedia tools are used in conjunction with conceptual instructional strategies the effectiveness of discussions in chat room increases. Learning becomes a

continuous and interactive engagement of ideas. This integration and engagement of ideas allows students to develop new cognitive structures, which enhances their thinking about thinking.

In an extensive research study in the area of transfer of skills to actual practice conducted by Joyce and showers (1984), it was determined that feedback and coaching boost learning to an overall 90 percent success rate. This finding was again validated in 1995. The following Table reflects the overall success rate in learning when the following components are present:

Insert Table 2 here

If we were to add and extend two additional variables, i.e., differential instructional strategies and reflective practice to these research findings, it is possible and probably that the rate for successful learning could increase close to the 100% level.

The forty-four instructional strategies form the basis for critical and creative thinking, expanding inquiry and provide opportunities for enrich engagement of challenging ideas.

Each individual strategy places the responsibility for authentic learning, within the curriculum, and on the mental processes of each participant. Authentic experience increases the dialogue for true learning. Each authentic and reflective experience gives promise to activate and engage learners in the manner that is called for by the reformers and suggested by the standards.

Each strategy employed should be implemented to produce higher order thinking skills; to provide a focus and forum for the discussion of divergent viewpoints, and to increase the generation of ideas and solutions not currently found in today's didactic classrooms.

An example of an inquiry approach could take the following form: (1) Presenting and sharing of divergent and conflicting ideas, (2) Establishing the social context and people's interest, (3) Identify the form

and structure of ideas, (4) Critically analyzing and classification of competing ideas, (5) Acting and asking, (6) Meta-cognition and reflection tools, (7) Emergence of new thought patterns, ideas and questions, (8) Re-organization and re-construction of images and thought, (9) Synthesis and creation of new mental models, and (10) Creation of a new cognitive schema.

Imparting information, in-and-of-itself has limited value for learning. When untreated information has been sifted for utility and relevancy, is placed in a constructivist alignment, the opportunity for the creation of new knowledge bases emerge.

Knowledge has value when learning is grounded in an epistemology that affirms integrative ways of knowing; believes meaning and connections are constructed by the learner; affirms the power of relationships and community in learning; believes the learners' passion and love are essential for deep learning; understands the heart of learning and that there is a profound connection between the knower and the known (Marshall, 1999).

The use of chat room strategies can be an effective tool in providing needed change in the instructional arena. Where technology is integrated into the curriculum, and not considered a separate discipline or used solely

as a means for drill and practice of skills, technology and the use of chat rooms have been shown to be very effective.

Research by Wenglinksy (1998) and others have shown that using technology that emphasizes drill and practice has little effect on learning. However, when technology is used as a tool that causes the student to think and apply concepts from the curriculum, learning is improved.

Educators need to apply current research finding using instructional strategies, in their use of on-line education for student learning. Teachers use of appropriate technological tools; their interactive uses of chat rooms, implementing fruitful instructional strategies in a concept-based curriculum, does elevates student thinking levels, while providing a meaningful context for learning.

Distance education and the use of chat rooms is a concept whose time has come. This article is one small step to bridge the gap that exists in the minds of those who are fearful of change and for those already begin their journey and are moving forward to reach their destination-i.e. on-line interactions across the world.

The benefits of this model are universal. The model suggested here in Table 3 is a small but useful attempt to make distance education and the use of chat rooms more meaningful and productive.

Table 3 Internet Chat Room Interactive Inquiries\Strategies

Insert Table 3 here

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Table 1

| Achievement as a constant                                                    | Time as a variable                                                           |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Quick accessibility to new information                                       | Provides for greater flexibility of learning                                 |
| Increases greater mentoring opportunities                                    | Allows self-assessment/formative models                                      |
| Learning is viewed as continuous                                             | Cooperative endeavors encouraged                                             |
| Synchronous learning                                                         | Provides corrective feedback                                                 |
| Learning is not penalized by evaluation                                      | Branching & feedback loops are available                                     |
| Increases authentic learning activities                                      | Enhances real life connections                                               |
| Teachers as facilitators and catalysts                                       | Increases self-directed learners                                             |
| Provides for curriculum expansion                                            | Is Multi-media directed                                                      |
| Uses "Constructivist" principles                                             | Provides flexibility & time for learning                                     |
| Increase uses of instructional tools using technology as its delivery system | Increases uses of collaboration and cooperative learning models, i.e. teams. |

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Table 2

| <u>Components of Successful Learning:</u> |                 |                 |                 |
|-------------------------------------------|-----------------|-----------------|-----------------|
| <u>5%</u>                                 | 10%             | 20%             | 25%             |
| 90%                                       | 100%            |                 |                 |
| <u>Theory</u>                             | Theory+         | Theory +        | Theory +        |
| Theory +                                  | Theory +        |                 |                 |
|                                           | Demonstration   | Demonstration + | Demonstration + |
| Demonstration +                           | Demonstration + | Practice +      | Practice +      |
| Practice +                                | Practice +      |                 | Feedback        |
| Feedback +                                | Form.Feedback + |                 |                 |
| Coaching                                  | Coaching +      |                 |                 |
| Inst. Strategies +                        |                 |                 |                 |
| <b>Reflection</b>                         |                 |                 |                 |

Adapted from Susko, 2000

Table 3

|     |                                                              |     |                                                                                                                                                               |
|-----|--------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Questioning                                                  | 2.  | Threaded Discussion                                                                                                                                           |
| 3.  | Answering Questions                                          | 4.  | Pyramid Question Building                                                                                                                                     |
| 5.  | Elaboration of Ideas                                         | 6.  | Relating Topics to Classroom Teaching                                                                                                                         |
| 7.  | Building on Research Findings                                | 8.  | Identifying Issues on the Topics Under Discussion                                                                                                             |
| 9.  | Lecturing                                                    | 10. | Learning Teams\Groups                                                                                                                                         |
| 11. | Sharing Ideas & Having Others Expand and Contribute to Ideas | 12. | Hypermedia Presentations                                                                                                                                      |
| 13. | Demonstrations Using Different Graphics\Visual Presentations | 14. | Guest Presenters\Panels                                                                                                                                       |
| 15. | Identifying Authentic Learning Types                         | 16. | Creating New Models of Education & Posting Same on Discussion Panel or Bulletin Boards                                                                        |
| 17. | Sharing Promising Classroom Practices (Instructionally)      | 18. | Identifying Major Concepts\Principles\Models, Ideas                                                                                                           |
| 19. | Brainstorming                                                | 20. | Webbing                                                                                                                                                       |
| 21. | Case Studies                                                 | 22. | Simulations                                                                                                                                                   |
| 23. | Embedded Questions\Ideas                                     | 24. | Focused Questions\Ideas                                                                                                                                       |
| 25. | Problem-Solving\Prevention                                   | 26. | Branching Discussions                                                                                                                                         |
| 27. | Scenarios (Different Types)                                  | 28. | Reflective Practices & Journals                                                                                                                               |
| 29. | Scaffolding                                                  | 30. | Reconstituted Teams                                                                                                                                           |
| 31. | Response Presentations\Discussions                           | 32. | Problem-Solving Teams                                                                                                                                         |
| 33. | Jigsaw (Cooperative Learning)                                | 34. | Reshaping & Reorganization Issues\Ideas\Facts\Research                                                                                                        |
| 35. | Collaboration                                                | 36. | Role Play                                                                                                                                                     |
| 37. | Concept Mapping                                              | 38. | Fishbowl                                                                                                                                                      |
| 39. | Self-Directed Approaches                                     | 40. | Crises Management Teams                                                                                                                                       |
| 41. | Critiques\Reaction Papers\Response Essays                    | 42. | Uses of Internet Search Engines K-12 Including Life Long Learning: (Alta Vista - Hot Bot - Infoseek - Lycos - Magellan - Excite - Yahoo - Web Crawler, etc.). |
| 43. | Activities Using Search Engines                              | 44. | Inquiry                                                                                                                                                       |

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